Amendments of the Claims:

A detailed listing of all claims in the application is presented below. This listing of claims will replace all prior versions, and listings, of claims in the application. All claims being currently amended are submitted with markings to indicate the changes that have been made relative to immediate prior version of the claims. The changes in any amended claim are being shown by strikethrough (for deleted matter) or underlined (for added matter).

1.–34. (Cancelled)

35. (New) A device for collecting data on usage of a firearm having a barrel, comprising:

a single accelerometer mounted on the firearm producing a signal on a signal output in response to sensing an impulse in the weapon;

a processor having an input coupled to the signal output, such that a signal on the signal output of the accelerometer which exceeds a threshold level is sensed as a shot,

the processor having a hold-off delay after a shot is sensed such that additional signals on the signal output of the accelerometer are not sensed as shots until after the hold-off delay, the hold-off delay being chosen such that all subsequent impulses produced during firing a shot fall within the hold-off delay;

a memory coupled to the processor, for storing information related to shots sensed by the processor.

36. (New). The device of claim 35, in which the information stored in the memory comprises an interval between firing of shots.

37. (New) The device of claim 36, in which the interval between shots is used by the processor to derive a fire rate for the firearm, and the information stored in the memory comprises a maximum fire rate.

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38. (New) The device of claim 35, further comprising a temperature sensor coupled to the barrel of the firearm and the processor, in which the information stored in the memory comprises temperature of the barrel as each shot is fired.

39. (New) The device of claim 38, further comprising at least one amplifier having an input coupled to the temperature sensor and an output coupled to the processor.

40. (New) The device of claim 39, in which the processor is programmed to apply power to the amplifier only during a measurement period, such that power consumption is reduced.

41. (New) The device of claim 38, in which the temperature sensor is a thermocouple in contact with the barrel.

42. (New) The device of claim 38, in which the temperature sensor is an infrared detector.

43. (New) The device of claim 35, further comprising an interface coupled to the processor, for transferring data from the device to an external data collection device.

44. (New) The device of claim 43, further comprising an external data collection device comprising a programmed computer coupled to the processor through the interface.

45. (New) The device of claim 35, in which the information stored in the memory is stored as a histogram.

46. (New) The device of claim 35, in which the information stored in the memory comprises date and time that each shot was fired.

47. (New) The device of claim 35, in which the memory is non-volatile memory.

48. (New) The device of claim 35, in which the information stored in the memory comprises identifying data regarding the weapon, selected from the group comprising serial number, barrel number, model number and last date of service.

49. (New) The device of claim 35, in which the hold-off delay is variable.

50. (New) The device of claim 35, further comprising a case housing at least the processor and the memory.

51. (New) The device of claim 50, in which the device further comprises clips for attaching the case to the barrel, and a thermal insulator applied to the case, for providing thermal insulation between the case and the barrel.

52. (New) The device of claim 51, further comprising a temperature sensor embedded within a contact surface of the thermal insulator, such that the sensor is in contact with the barrel of the firearm when the case is mounted to the barrel by the clips, the sensor being coupled to the processor, and the information stored in the memory comprises temperature of the barrel as each shot is fired.

53. (New) The device of claim 50, in which the device further comprises a strap for attaching the case to the barrel and a plurality of segments of thermal insulator for providing thermal insulation between the case and the barrel, the segments being clamped to the barrel by the strap, the case being attached to one of the plurality of segments.

54. (New) The device of claim 53, further comprising a temperature sensor passing through one of the segments of thermal insulator, such that the sensor is in contact with the barrel of the firearm when the case is mounted to the barrel by the strap, the sensor being coupled to the processor, and the information stored in the memory comprises temperature of the barrel as each shot is fired.

55. (New) The device of claim 50, in which the case further comprises a mounting rail for mounting the case to the barrel, and a heat shield for providing thermal insulation between the case and the barrel.

56. (New) An electronic system for collecting data from small-arms, comprising:

at least one device for collecting data on usage of a firearm having a barrel, comprising:

a single accelerometer mounted on the firearm producing a signal on a signal output in response to sensing an impulse in the weapon;

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a processor having an input coupled to the signal output, such that a signal on the signal output of the accelerometer which exceeds a threshold level is sensed as a shot,

the processor having a hold-off delay after a shot is sensed such that additional signals on the signal output of the accelerometer are not sensed as shots until after the hold-off delay, the hold-off delay being chosen such that all subsequent impulses produced during firing a shot fall within the hold-off delay;

a memory coupled to the processor, for storing information related to shots sensed by the processor; and

an interface coupled to the processor, for transferring data from the device;

an external data collection device comprising a programmed computer coupled to the processor through the interface.

57. (New) A method of collecting data on usage of a firearm having a barrel, comprising the steps of:

mounting a single accelerometer on the firearm, the accelerometer producing a signal on a signal output in response to sensing an impulse in the weapon;

processing the signal in a processor, such that a signal on the signal output of the accelerometer which exceeds a threshold level is sensed as a shot,

after a shot is sensed, starting a hold-off delay, such that additional signals on the signal output of the accelerometer are not sensed as shots until after the hold-off delay, the hold-off delay being chosen such that all subsequent impulses produced during firing a shot fall within the hold-off delay;

storing information related to shots sensed by the processor in a memory.

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58. (New) The method of claim 57, in which step of storing information comprises storing an interval between firing of shots.

59. (New) The method of claim 58, further comprising the steps of deriving a fire rate for the firearm from the interval between shots, and in which step of storing information comprises storing a maximum fire rate in the data.

60. (New) The method of claim 58, further comprising the step of sensing barrel temperature after a shot is detected and in which step of storing information comprises storing information on barrel temperature in the memory.

61. (New) The method of claim 57, in which the step of storing information comprises storing date and time that each shot was fired in the memory.

62. (New) The method of claim 57, in which the information stored in the memory is stored as a histogram.

63. (New) The method of claim 57, further comprising the step of storing identifying data in the memory regarding the weapon, selected from the group comprising serial number, barrel number, model number and last date of service.

64. (New) The method of claim 57, further comprising the step of unloading the stored information from the memory to an external data collection device comprising a programmed computer coupled to the processor through an interface.

65. (New) A device for collecting data on usage of a firearm having a barrel, comprising:

an RF detector mounted on the firearm producing a signal on a signal output in response to sensing a radio-frequency impulse;

a processor having an input coupled to the signal output, such that a signal on the signal output of the RF detector which exceeds a threshold level is sensed as a shot,

a memory coupled to the processor, for storing information related to shots

sensed by the processor.

66. (New) The device of claim 65, in which the information stored in the memory comprises an interval between firing of shots.

67. (New) The device of claim 66, in which the interval between shots is used by the processor to derive a fire rate for the firearm, and the information stored in the memory comprises a maximum fire rate.

68. (New) The device of claim 65, further comprising a temperature sensor coupled to the barrel of the firearm and the processor, in which the information stored in the memory comprises temperature of the barrel as each shot is fired.

69. (New) The device of claim 68, further comprising at least one amplifier having an input coupled to the temperature sensor and an output coupled to the processor.

70. (New) The device of claim 69, in which the processor is programmed to apply power to the amplifier only during a measurement period, such that power consumption is reduced.

71. (New) The device of claim 68, in which the temperature sensor is a thermocouple in contact with the barrel.

72. (New) The device of claim 68, in which the temperature sensor is an infrared detector.

73. (New) The device of claim 65, further comprising an interface coupled to the processor, for transferring data from the device to an external data collection device.

74. (New) The device of claim 73, further comprising an external data collection device comprising a programmed computer coupled to the processor through the interface.

75. (New) The device of claim 65, in which the information stored in the memory is stored as a histogram.

76. (New) The device of claim 65, in which the information stored in the memory comprises date and time that each shot was fired.

77. (New) The device of claim 65, in which the memory is non-volatile memory.

78. (New) The device of claim 65, in which the information stored in the memory comprises identifying data regarding the weapon, selected from the group comprising serial number, barrel number, model number and last date of service.

79. (New) The device of claim 65, in which the hold-off delay is variable.

80. (New) The device of claim 65, further comprising a case housing at least the processor and the memory.

81. (New) The device of claim 80, in which the device further comprises clips for attaching the case to the barrel, and a thermal insulator applied to the case, for providing thermal insulation between the case and the barrel.

82. (New) The device of claim 81, further comprising a temperature sensor embedded within a contact surface of the thermal insulator, such that the sensor is in contact with the barrel of the firearm when the case is mounted to the barrel by the clips, the sensor being coupled to the processor, and the information stored in the memory comprises temperature of the barrel as each shot is fired.

83. (New) The device of claim 80, in which the device further comprises a strap for attaching the case to the barrel and a plurality of segments of thermal insulator for providing thermal insulation between the case and the barrel, the segments being clamped to the barrel by the strap, the case being attached to one of the plurality of segments.

84. (New) The device of claim 83, further comprising a temperature sensor passing through one of the segments of thermal insulator, such that the sensor is in contact with the barrel of the firearm when the case is mounted to the barrel by the strap, the sensor being coupled to the processor, and the information stored in the memory comprises temperature of the barrel as each shot is fired.

85. (New) The device of claim 80, in which the case further comprises a mounting rail for mounting the case to the barrel, and a heat shield for providing thermal insulation between the case and the barrel.

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